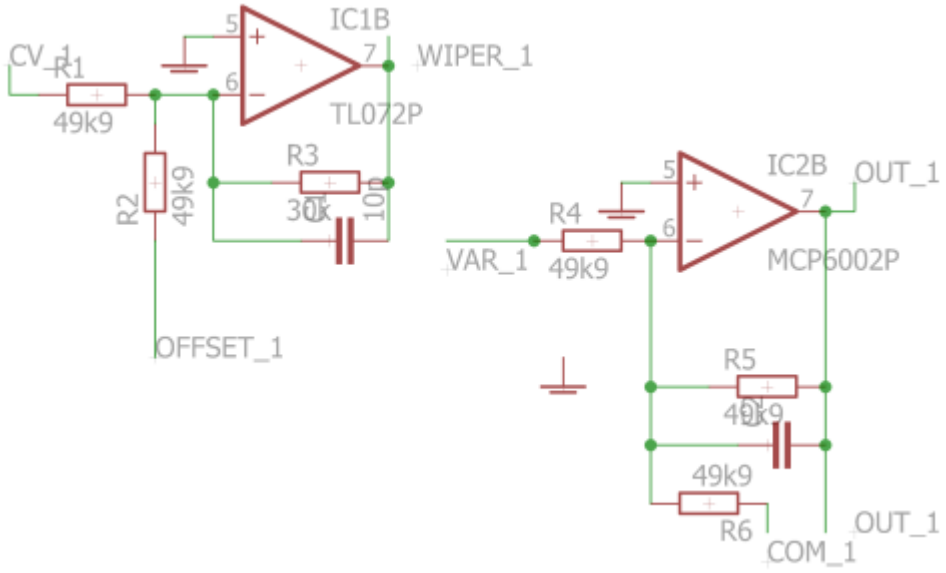
AIN_4 module

This is a simple way of scaling CVs (as might come from a modular) ready for an STM322F4 Core module.

Schematic



The circuit is a very simple series of two inverting amplifiers per channel. The first is a TL072 powered from +12/-12V, while the second is an MCP6002 powered from 3v3/0V (ground). It's possible to preset the ranges (see below) but it's probably more useful to use the associated Control Board.

BOM

Type	Qty	Value	Package	Parts	Notes
resistors					
	20	49k9	0204/7	R1, R2, R4, R5, R6, R7, R8, R10, R11, R12, R13, R14, R16, R17, R18, R19, R20, R22, R23, R24	
	4	30k	0204/7	R3, R9, R15, R21	nominal gain can be adjusted e.g. (22k/49.9k)*5V = 2.2V
capacitors					
	4	10p	025×050	C1, C3, C5, C7	
	9	100n	025×050	C10, C12, C13, C14, C15, C16, C17, C18, C20	remove 1 if powering from Core
	3	10u	electrolytic 2,5-6	C9, C11, C19	remove 1 if powering from Core
	4	optional	C025-025×050	C2, C4, C6, C8	can use another e.g. 10pF cap here for more filtering

Type	Qty	Value	Package	Parts	Notes
resistors					
inductors					
	2	BEAD	5MM	L1, L2	
ICs					
	2	MCP6002P	DIL08	IC2, IC4	sockets are recommended
	2	TL072P	DIL08	IC1, IC3	sockets are recommended
Vreg					
	1	optional	78XXS	VR1	remove if powering from Core
headers					
	7		1X02_SMALL	JP1, JP2, JP3, JP4, JP5, JP6, JP7	check board for headers as SIL strips of 3, 5 or 6
	8		1X03_SMALL	JP8, JP9, JP10, JP11, JP12, JP13, JP14, JP15	
	2		2*5 (shrouded)	J1, J2	

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